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**Operational Art: Practical Utility
or Defunct Doctrinal Concept**

**A Monograph
by**

**Major Stephen T. Jordan
Air Defense Artillery**

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ABSTRACT

Operational Art: Modern Utility or Defunct Doctrinal Concept

by MAJ Stephen T. Jordan, USA

This monograph analyzes the modern doctrinal concept called operational art with regard to its practical utility for operational level commanders and staffs. It uses three campaigns, examined in light of criteria which form the component parts of operational design and the definition of operational art itself. These criteria are: the identification of military strategic goals, the establishment of military conditions, the use of sequential operations, and the allocation of resources.

The monograph first establishes a theoretical foundation for the criteria. Next, evidence is drawn from each campaign and is critically analyzed to determine how the current concept of operational art was reflected in the design and conduct of the campaign, and how it contributed to success or failure.

The monograph concludes that the modern doctrinal concept called operational art has distinct practical utility. While the mere practice of operational art does not guarantee success, and its component parts do not provide the operational level commander and staff with some kind of magical formula, it does provide them with a critical planning and executing tool.

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I. INTRODUCTION

Despite the existence of the term operational art for over nine years in the vocabulary of the United States Army, a general lack of understanding exists concerning its practical utility. The 1986 version of FM 100-5, Operations, provides a clear definition of operational art, but its adequacy as a doctrinal concept that can be applied to the planning and conduct of military operations is obscured by this lack of understanding.¹ Contemporary discussion on the subject relates operational art to levels of war, levels of command, levels of planning, sizes of forces involved, and even to geographical aspects of the battlefield. This broadening of the doctrinal concept clouds the issue of its practical utility to warfighting. While certain characteristics similar to those above emerge in the practice of operational art on the modern battlefield, its utility as a concept must be derived from what it "is", not what it "looks like." If the term/concept applies to all of these subjects, its usefulness is diluted and its contribution to the planning and conduct of military operations in a theater of war or theater of operations becomes vague. Therefore, if operational art is to have meaning for today's military planners, its adequacy as a doctrinal concept must be more clearly defined. The research question I will answer in this monograph, therefore, concerns the adequacy of the doctrinal concept called operational art for today's operational commanders and planners. In other words, where, if anywhere, does its practical utility lie.

In order to embark upon a coherent study of operational art, it is important to ensure an understanding of relevant terms. Operational art, according to United States Army doctrine, is defined as, "the employment of military forces to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations."² FM 100-5 goes on further to define a campaign as "a series of joint actions designed to attain a strategic objective in a theater of war." A major operation is defined as "the coordinated actions of large forces in a single phase of a campaign or in a critical battle."³ Finally, Army doctrine specifically points out that the essence of operational art is the identification of the enemy's center of gravity, and that its practice is not tied to any particular level of command.⁴

The joint definition of operational art is identical to the Army definition with the exception that it is said to attain operational objectives as well as strategic goals in theaters of war and theaters of operations.⁵ Campaigns, too, are defined similarly: "a series of military operations aimed to accomplish a strategic or operational objective within a given space and time."⁶ Major operations are not defined by joint regulation. Doctrinally, therefore, there should be no question that operational art is characterized by what it aims to achieve and how the campaign should proceed, not a specific level of command or a specific sized piece of terrain.

Concerning the phrase "operational level of war", Army doctrine shows no distinction between it and

operational art. That is, the operational level is that level which practices operational art.⁷ Joint publications, however, broaden the definition of this level of war: "The level of war at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theaters or areas of operation. Activities at this level link tactics and strategy by establishing operational objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time and space than do tactics; they ensure the logistic and administrative support of tactical force, and provide the means by which tactical successes are exploited to achieve strategic objectives".⁸ Regardless, once again doctrine is clear that it is the "linkage" quality of the operational level of war or operational art that determines its importance.

A final definitional problem is that of levels of war. Both joint and Army doctrine recognize three levels of war, tactical, operational and strategic.⁹ However, both "imply" a fourth level. The strategic level of war is better labeled the "military strategic" level of war because it exists to achieve policy objectives, the realm of national strategy. National strategy has at its disposal five elements of power, only one of which is military. An entire monograph could be written on this subject. The significance of this discussion for the present, however, lies in the fact that operational art, by definition, exists to achieve strategic goals. It is important therefore, to

understand that the strategic goals are those of military strategy, not national strategy. Operational art links tactics to military strategy, and military strategy links operational art to the achievement of policy objectives.

My plan of attack is to first identify the theoretical basis for my criteria, which will be discussed later. I will then examine campaigns which will serve as historical evidence. This evidence will focus on that range of activities taken by armies in the field linking their tactical actions to the established military strategic goals. By examining this evidence in light of certain criteria, the adequacy of current doctrine for the design and conduct of campaigns can be derived through critical analysis. Component parts of the definition of operational art and operational design are the criteria I will use to test possible answers to my research question. I will use this criteria as a lens through which historical evidence is passed to determine the adequacy of current doctrine for planning and execution at the operational level of war. The following paragraphs elaborate on these criteria:

1. The identification of military strategic goals. This criterion requires the least amount of discussion, yet is probably the most important. Strategic goals determine the focus of the entire campaign, start to finish.

2. The establishment of military conditions. This criterion includes the identification of military conditions that achieve strategic goals, the identification of centers of gravity and decisive points, the establishment of operational objectives that

achieve military conditions, and assurance that there is military strategic and operational agreement.

3. Sequential operations. Sequential operations require that phases are planned, favorable conditions for the tactical battle are set, superior combat power is concentrated, lines of operation and support are identified and culmination, branches and sequels are considered.

4. Resource allocation. Finally resources are allocated to accomplish the sequence of actions identified above. This includes organizing the theater, assigning missions, and orchestrating operational functions.

Having outlined my methodology, clarified pertinent terms, and listed my criteria, the following section will establish a sound theoretical basis for a critical analysis of historical evidence.

II. THEORY

The purpose of this section is to use theory to validate my criteria. Since the criteria serve as the lens through which I will pass historical evidence to arrive at the answer to my research question, it is essential that the criteria be firmly grounded in theory. This section provides credibility for the use of the criteria in subsequent critical analysis and therefore lays the foundation for my entire research effort.

This use of theory is by no means original. In fact, it is totally consistent with the purpose

Clausewitz assigned to theory long ago, i.e.:

Theory will have fulfilled its main task when it is used to analyze the constituent elements of war, to distinguish precisely what at first seems fused, to explain in full the properties of the means employed and to show their probable effects, to define clearly the nature of the ends in view, and to illuminate all phases of warfare in a thorough critical inquiry.¹⁰

Beginning with the identification of strategic goals, Clausewitz wrote that "the strategist must define an aim for the entire operational side of the war that will be in accordance with its purpose."¹¹ This single quote demonstrates the linkage between the operational, military strategic and political levels of war and clearly points out the importance of the aim. The aim, or military strategic goal established at the military strategic level of war, is the bridge between the operational level and the political object. Furthermore, it is the beginning, or point of departure, for the "entire operational side of the war." Additionally, Clausewitz states that: "No one starts a war - or rather, no one in his senses ought to do so - without first being clear in his mind what he intends to achieve by that war and how he intends to conduct it. The former is its political purpose, the latter is its operational objective."¹² From this, it follows that, "War must be conceived as a single whole, and that with his first move the general must already have a clear idea of the goal on which all lines are to converge."¹³

That strategic goals must first be established seems quite obvious. The concept or principle of the objective has been at the center of the study of war for many years. Principles of war based upon the works of British Major General J.F.C. Fuller have appeared in Army

doctrine, to include the current version of FM 100-5, Operations, since 1921. At the top of the list has always been the principle of the objective.¹⁴ However obvious, the definition of goals, according to noted military theorist Bernard Brodie, is and has been a problem throughout history.¹⁵ Without the goals established by the military strategic commander, it is impossible for the operational level commander to practice his art.

Theory supporting the criterion concerning the establishment of military conditions, operational objectives, decisive points and centers of gravity is equally abundant. Jomini's strategic and grand tactical levels of war correspond closely with what we consider today to be the operational level of war. Of these levels, it was the job of strategy to select the theater, determine decisive points and select the objective. Strategy directed the army to decisive points of a zone of operations and influenced, in advance, the results of battles. Grand tactics was the art of forming good combinations in the theater preliminary to battle. Together they had the function of setting the military conditions for the tactical battle.¹⁶

It was Clausewitz, however, who first developed the concept of center of gravity. To him, the center of gravity was, "the hub of all power and movement, on which everything depends."¹⁷ It was the point against which all energies should be directed and the basis for all of military strategy.¹⁸ From Clausewitz, the Army borrowed the term center of gravity and included it in FM 100-5, Operations. While in Clausewitz' time the enemy's center of gravity was normally its army, FM 100-5 indicates that

it may be something other than the army.¹⁹ Regardless, the identification of the enemy's center of gravity as explained in FM 100-5, is the "essence of operational art."²⁰ Clausewitz went on to say that no matter what the central feature of the enemy's power is, the best place to start is with the destruction of his forces.²¹ Once the center of gravity and decisive points have been identified, operational objectives can be established that will lead to the achievement of the military conditions established.

The final aspect of this criterion is ensuring that there is strategic/operational agreement. This is vital to ensure that operational art serves its function as the linkage between tactical actions and military strategic goals. According to Clausewitz this is achieved by viewing the part and the whole together.²² This was easily accomplished in his time, as the military strategist and the operational commander were often the same person. Today, with levels of command so often clearly separated, it is critical to pay particular attention to this agreement.

Sequenced actions to achieve the operational objectives is a critical aspect of operational design and is also deeply founded in both classical and contemporary theory. On the classical side, Clausewitz indicated that war is not a single, isolated act and that it does not consist of a single, short blow.²³ For this reason, it is essential to sequence actions or plan phases to achieve operational objectives. Each individual act must be made to contribute to the whole, the whole being determined by the strategic goals established. The individual acts, therefore, have no value in themselves.

Their value is determined by linkage to the aim.²⁴ The operational artist therefore gives purpose to the tactical battles and engagements by ensuring they contribute to the achievement of the strategic goals. This coordination of engagements, the series of actions necessary to achieve the aim of the war, to Clausewitz, was the essence of strategy (operational art).²⁵

Russian theorist Mikhail Tukhachevsky wrote of the need for sequenced operations almost 70 years ago. Time and space problems on the battlefield were making it impossible to achieve a decisive victory in a single battle. Successive operations were therefore becoming increasingly necessary. He went on to write "...we must not have a plan without tying in the beginning with the end. To do this, one must outline the sequence in which the deployed enemy battle formations will be struck."²⁶ In a lecture given to the School of Advanced Military Studies (SAMS) by Dr. Bruce Menning on 13 August 1990, he emphasized the importance of successive operations to the Soviet Union not only because the nature of war was changing, but also because they provided a means to retain the initiative and prevent culmination.²⁷ SAMS theorist, Professor James J. Schneider, sees simultaneous and successive operations as the "heart of operational art."²⁸

Clausewitz best supports the criterion concerning the application of resources to accomplish the sequence of actions in a single quote: "...the art of war is the art of using the given means in combat."²⁹ In order to use the given means effectively, the commander must organize the theater, assign missions to subordinate commanders and allocate sufficient resources to

accomplish them. Jomini too saw the importance of properly organizing the theater. If done well, the results of battle would be favorably influenced. Strategy, grand tactics and logistics together provided the where to act, the manner of execution and employment of troops, and brought the troops to that point.

When allocating resources, it is essential to assess what is possible and what is not. This becomes an important part of the resource allocation criterion, since attempts to achieve ends beyond the physical capacity of means can result in failure regardless of the methods employed.

While theoretical validity of criteria forms the foundation for analysis, only the actual critical analysis of selected campaigns can provide an answer to the research question.

III. HISTORY/CRITICAL ANALYSIS

In this section I will conduct an examination of three campaigns, two from World War II and one from recent history, to determine those aspects meeting our current understanding of the practice of operational art. I will begin with the political setting within which each occurred and work down through the three levels of war, with particular emphasis on the operational level. The two campaigns I selected from World War II for analysis are the German 1941 Summer Offensive against the Soviet Union, code-named BARBAROSSA, and the Allied invasion of Sicily of 1943, code-named Operation HUSKY. The campaign from recent history is Operation DESERT STORM, the 1991

war waged by the United States and coalition partners against Iraq.

The significance of the campaigns under examination does not lie in their success or failure. Rather, the aim is to determine how our modern concept called operational art can be overlaid upon the planning and execution of actual campaigns, to determine the concept's usefulness. That is, analysis will merely show if and how our doctrinal concept did, or could have contributed to the outcome. I could have analyzed any number of campaigns in this section. I selected these three because of the diverse settings within which they occurred. BARBAROSSA was conducted by the Germans in an attempt to conquer a large land power in a single campaign in a large theater. HUSKY was part of the Allied effort to ultimately defeat the Axis powers, in a campaign with more limited aims. Finally, DESERT STORM was a campaign which witnessed high technology pitted against superior numbers on the modern battlefield.

Each of the following sub-sections critically analyze a single campaign. In order to provide the necessary flow for the analysis, these sub-sections are further broken down by criterion. Analysis will begin with a brief overview of the campaign, to include consideration of stated policy objectives, and proceed through each criterion.

BARBAROSSA

OVERVIEW

BARBAROSSA was the plan for the German invasion of Russia in the summer of 1941. Hitler's policy objective leading to the use of military force in this particular

campaign was clear from the beginning. His desire was to conquer the Soviet Union, knock them from the war, and gain territory for Germany to the east. Also, he knew this needed to be accomplished quickly, before the United States and her Allies opened a second front to the west. As planning commenced, Hitler enunciated the military strategic goals as well. As with his policy objectives, his military strategic goals were equally clear.

MILITARY STRATEGIC GOALS

Hitler's military strategic goals were to crush the Red Army, gain territory to the east to prevent Soviet raids on Berlin and German industrial regions, and to destroy the sources of the enemy's war potential (arms industry, mines, oilfields, etc.).³⁰ The first and most important criterion was therefore met by Hitler. With clearly identified military strategic goals, his military planners had the guidance needed to formulate a campaign plan to prosecute the war with Russia.

MILITARY CONDITIONS

According to my criteria, the Germans' next task should have been the determination of military conditions that would achieve the strategic goals identified, beginning with the identification of operational objectives. These objectives were determined to be the elimination of the Red Army as an effective fighting force and the occupation of Soviet territory including the key cities of Leningrad, Moscow and Kiev. Furthermore, the military conditions necessary to achieve these objectives were identified as the destruction the Red Army, quick defeat of the Russian forces west of the

Dnepr River, strong German wings north and south to split the Russian front and encircle the preponderance of enemy forces on the frontier, and situations created across the front that would prevent the retreat of the Red Army to the interior of the country. Additionally, he wished to gain territory by the rapid occupation of Leningrad, Moscow, Kiev and the Baku oilfields to the south.³¹

Hitler had thus clearly stated the enemy center of gravity as the main enemy force. The decisive points he identified as Leningrad, Moscow and Kiev were to be seized and were meant to contribute to the collapse of the center of gravity. Throughout the planning process, he repeatedly emphasized the importance of the enemy force over the geographical orientation of the attack. His operational objectives coincided with the military conditions he established: destruction of enemy forces and occupation of Leningrad, Moscow and Kiev. What appeared to be a well conceived campaign, at least from the standpoint of the identification of military strategic goals and military conditions, suffered from a different kind of problem.

While Hitler appeared to know exactly what he wanted to do, within the German general staff structure (most notably within the OKH), much debate ensued as to the viability of the operational objectives defined by Hitler. OKH, almost in defiance of Hitler's directive, planned thrusts by three army groups, instead of two: Army Group North to Leningrad, Army Group Center to Moscow, and Army Group South to Kiev. Army Group Center was to be the main effort, as Moscow was seen by OKH Chief of Staff Halder as the primary objective.³² Already, dissension in the ranks was present. When the

OKH plan was presented to Hitler on 5 December 1940. Halder and the OKH expected little opposition from Hitler as they felt that their plan was close enough to Hitler's initial plan.³³ However, Hitler dissented, again emphasizing the destruction of the Red Army over a march on Moscow, occupation of an area which will render the capital [Berlin] safe from air attacks, operations to destroy the sources of enemy war potential (armaments industries, mines, oilfields) and the use of two strong wings north and south of the Pripyat Marsh, to split the Russian front and encircle the enemy in separate pockets.³⁴ Hitler therefore reaffirmed his initial guidance to the planning staff, and the OKH plan centered on the importance of the Moscow objective was placed in jeopardy.

Halder did not allow this reversal to influence his planning, however. He and the OKH staff went along with Hitler's desires, but worded the operations order so vaguely as to permit a reversion to their original plan (the advance on Moscow by Army Group Center) once operations were underway. A breakdown at the highest levels of the German war machine was taking shape.³⁵ The result was two plans being executed simultaneously, the problem being left unresolved at the start of the campaign.

Hitler's meddling in operational matters would continue to undermine the unity of effort so vital to the successful prosecution of BARBAROSSA. Throughout the war, Hitler was involved in the top three tiers of war. First, in the political arena, his position as dictator gave him de facto influence. Secondly, as was the case throughout World War II, he was directly involved with

making all of the military strategic decisions. Finally, as evidenced in this campaign, he also reserved the right to make operational decisions in both the planning and execution of BARBAROSSA. While this arrangement may have ensured operational and strategic agreement, it caused other problems, problems that occurred as the armed forces attempted to execute the two plans simultaneously, those of Hitler and OKH Chief of Staff Halder.

It is not enough, therefore, to have clearly identified strategic goals and established military conditions to achieve them. Unity of effort among various command and staff levels is equally important. While Hitler met the first two criteria, success was not guaranteed. These two aspects of operational design must not only be properly conceived, but properly executed as well.

SEQUENCED ACTIONS

Concerning the sequencing of actions to achieve the operational objectives, again Hitler's plan was on target. His initial concept called for a four-phased plan. First he envisioned a thrust on Kiev to the south, to secure a flank on the Dnepr River. During this phase, air operations would destroy bridges to facilitate the destruction of enemy forces by preventing their retreat. The second phase would begin with a thrust toward the Baltic States and, after Leningrad was taken, a continuation of the drive toward Moscow. The northern and southern army groups would then conduct a large double envelopment, linking up east of Moscow to complete the destruction of the Red Army and to gain further territory. Successively, the southern wing would conduct

a limited drive to capture the Baku oilfields in the Caucasus.³⁴ Due to the ambitious nature of the objectives, it was critical that these phases be conducted sequentially as opposed to simultaneously. Again, while the planning was effective, the execution was not.

When BARBAROSSA commenced on 22 June, the plan that was executed was not the same as the one Hitler envisioned. Halder had other ideas. As mentioned earlier, he strongly believed that Moscow was the most important of the objectives, ahead of the enemy force and ahead of Hitler's principle geographic objective, Leningrad. He therefore created three army groups instead of two, all the while planning to conduct a simultaneous thrust in the center toward Moscow. This plan was seen and approved by Hitler as long as the northern thrust was not weakened and the advance on Moscow did not begin until the northern objectives were assured. Halder, though, ensured the center was strong, and planned the attack on Moscow despite the outcome in the north. The concentration of superior combat strength envisioned by Hitler in the phases to his initial plan became diffused across the entire Russian frontier. Therefore, when BARBAROSSA commenced, instead of conducting sequential operations, the Germans attempted to conduct all phases simultaneously.

Lines of operation in both plans were clearly identified in the planning phase as well. Each army group had a delineated line connecting its base with its geographic objective. During the conduct of the operation, however, after it became clear that all three objectives could not be achieved simultaneously, lines of

operation broke down. It was never clear to the army group commanders where the direction of their next advance would be. Confused lines of operation were yet another result of the confused command and control structure that emerged in plan execution.

Another aspect of the criterion concerning sequenced actions is the use of branches and sequels. Here Hitler and his staff failed in the planning process. Consideration could have had a profound impact on the success of the campaign. The only significant branch planned, the drive on Moscow in the center if the north went well with resources provided, was executed by Halder from the outset as a component part of his own plan. Thought concerning branches to a campaign of this magnitude should have been essential. Lack of information concerning the threat and the potential for exploitable success along any of the three major lines of operation necessitated contingency planning. As it was, neither Hitler or Halder were prepared to cope with events as they unfolded in mid-August.

As for sequels, none of these were envisioned either. This was the result mainly of the confidence of all concerned that the campaign could not fail against such an inferior opponent as the Soviet Union. Additionally, previous campaigns in the west had convinced them that rapid, decisive victory was now within their grasp in any theater.

The sequential versus simultaneous problem during the execution of the campaign only got worse with time. Early successes deluded both Hitler and Halder that simultaneous drives were feasible. As the course of the battle ebbed, however, Hitler vacillated between the two.

As a result, the army groups were not provided the direction necessary for successful prosecution of the campaign. So much was the decision-making ability of Hitler impaired by lack of cooperation from his subordinates and conflicting information, that any clear direction was nonexistent mid-campaign. The clearly defined operational objectives and the sequenced operations to attain them were changed so frequently that the benefits to be derived from an effective planning process were lost in execution. These changes had a profound impact on the next criterion, the application of resources to accomplish the sequence of actions.

RESOURCE ALLOCATION

Hitler had a clear idea of how resources should be applied as shown in his concept discussed earlier. Halder, however, in the pursuit of his idea concerning the importance of Moscow, deliberately ensured that the flanks did not have sufficient resources with which to achieve the operational objectives. The organization of the theater, with three army groups instead of two, on the surface appears to have been sufficient for the accomplishment of the campaign objectives. On closer examination, this organization came back to haunt the Germans. The mere creation of the center army group diluted the flank efforts and served as a continual reminder of Halder's plans to take Moscow early. When resources were needed on the flanks, moving them north and south over great distances was a difficult process. Two army groups would have prevented any notion of Moscow over Leningrad, and ensured sufficient resources for sequential thrusts into the interior of Russia.

While each of the army groups was initially assigned specific missions, insufficient resources were allocated to see them accomplished. The northern army group, for instance, could not possibly have taken Leningrad, defeating the Red Army along the way, without help from the army group in the center. Hitler wanted, and Halder promised, that the resources would be provided, if necessary. Again, initial successes across the front led both to believe that sufficient forces were available in all zones. History has shown that this was not the case. When the decision was made by Hitler in mid-August to pursue simultaneous objectives in the north and south, resources were shifted from the center in both directions, with neither achieving its objectives by the end of the campaign.

A final note on the BARBAROSSA campaign concerns resources in how they relate to the ends, ways and means equation. Earlier discussion showed that Hitler had identified his ends, and in fact, had designed the ways. The means, however, were a terribly neglected factor in the equation. Normally, when means are not sufficient to achieve the ends, despite the ways adopted, risk is accepted. Von Paulus had outlined from the start, through wargames, that the means were insufficient for the objectives outlined by Hitler.³⁷ The German Army attempted to defeat Russia, a geographical area twenty times larger than France, with only 15 more divisions (150 vice 135).³⁸ During the course of the campaign the Russians showed an uncanny ability to regenerate forces and were appearing with equipment which equaled or exceeded the capabilities of the Germans. Clearly, resources were a problem. Acknowledgement of this

deficiency may have shown that the risk they accepted was not prudent.

Resources were not a problem for the planners of the next campaign to be analyzed. Operation HUSKY planners had an abundance of means available for the invasion of Sicily. They were to suffer from different problems.

HUSKY

OVERVIEW

Examination of the Allied invasion of the island of Sicily in June 1943 must begin with the Casablanca Conference which took place in January of the same year. It was at this conference that the initial plans were laid down by the United States and British coalition staffs. With the North African campaign nearly completed, January 1943 rolled around with the Allied planners greatly divided over what to do next.³⁹ While both parties agreed that the coalition policy objective should be the defeat of Germany and the liberation of France, the military strategy with which to accomplish these policy objectives remained a point of critical disagreement.⁴⁰

The British were firmly committed to a Mediterranean or "peripheral" strategy, striking at the "soft underbelly" of Europe.⁴¹ Any cross-channel invasion would therefore be only a "last blow" against a Germany already on the verge of collapse. The Americans, on the other hand, were in favor of large scale land operations directly against Germany, through the British Isles and Northern France, to be conducted in 1943. In the end, however, British strategy won out due to the meticulous

advanced planning conducted by their staff and the preponderance of British forces available for the next stage of the war against the Axis.⁴²

Even as agreement on strategy was reached, the Allies had still not developed a coherent long-range military strategy.⁴³ The coalition did not seem able to look beyond its next operation. United States post-HUSKY focus was on OVERLORD and British post-HUSKY focus was a continuation of the peripheral strategy to be accomplished through a subsequent invasion of the Italian mainland.⁴⁴ With doubt as to where strategy would lead the Allies after HUSKY, it was difficult for Eisenhower to establish an end state for this campaign that would facilitate the next step. Was Sicily an end in itself, or only a stepping stone for future operations.⁴⁵

MILITARY STRATEGIC GOALS

With Sicily decided, according to my first criterion, the establishment of military strategic goals was the first order of business for the coalition. This the coalition did. The stated goals of HUSKY were to secure the Mediterranean sea lines of communication (SLOCs), to divert pressure from the Russians on the Eastern Front and to intensify pressure on the Italian government. In a word, the military strategic goal was to take Sicily.⁴⁶ Therefore, once it was decided to invade Sicily, the divergence of military strategic thought ended and efforts were set in motion to plan for the invasion. General Eisenhower was designated the supreme commander. Under him were General Alexander, ground forces commander, Air Chief Marshal Tedder, air component commander, and Admiral Cunningham, the naval

commander. General Eisenhower, the operational level commander, therefore had both the military strategic guidance and the command and control structure to begin operational planning.

MILITARY CONDITIONS

After the establishment of military strategic goals, General Eisenhower's next task, according to the criteria, should have been to establish the military conditions required to achieve the strategic goals provided him at Casablanca. To do this, he first needed to determine the operational objectives that achieve the strategic goals and the military conditions that would achieve these objectives. He needed to identify decisive points and the enemy's center(s) of gravity. General Eisenhower did none of these.

Eisenhower was placed in a dilemma from the start. As mentioned previously, beyond secure SLOCs, diversion of German strength and intensified pressure on Italy, he had little idea what his end state was to be. His end state therefore became the same as the strategic end state, namely, Allied occupation of Sicily. The only military conditions he established were the seizure of air bases and ports and the amphibious landings of two armies. A key military condition that could, and should have been established, was the choking of the Messina Strait to prevent reinforcement, resupply and evacuation of the Axis fighting forces. This could have been achieved by the use of superior Allied naval and air forces to prevent transit across the strait, or by simultaneous landings on both sides of the strait.

The identification of the enemy's center of gravity,

in modern terms the essence of operational art, did not take place. By default, the decisive points became centers of gravity. That is, they became the focus, or points at which planning was directed, ignoring the broader aspects of the campaign. Eisenhower clearly violated Clausewitz' theoretical principle, and an important element of operational design, that no matter what the central feature of the enemy's power may be, the best place to start remains in the destruction of his fighting forces.⁴⁷ No attempt was made to coordinate the actions of the allied air, ground and naval forces toward the destruction of the enemy force. This enabled the German and Italian forces to accomplish the greatest escape since the British evacuated Dunkirk three years earlier. In essence, therefore, the first and most critical facet of operational design was violated in Operation HUSKY. Tactical action on the ground was conducted to achieve strategic goals of their own accord, lacking the unifying factor of the operational commander's establishment of military conditions to coordinate these actions.

As for the identification of decisive points, it may be argued that he correctly assessed the seizure of beachheads, ports and airfields. These would clearly facilitate the maintenance of forces ashore by providing logistics bases and airfields through which the Allied air forces could operate. However, beyond the initial seizure of these points, no decisive points were identified that would lead to the collapse of the enemy's center of gravity. But since there was no center of gravity identified, the identification of decisive points beyond the beachhead may have been impossible.

The plan Eisenhower decided to implement was the vague outline of one developed by the Combined Chiefs of Staff (CCS), at the military strategic level. This plan called for amphibious assaults against the southern and southeastern coasts of Sicily, to commence on 10 July 1943. As operational objectives for the invasion were ports and airfields on the island. Beyond these, there were no further operational objectives.⁴⁸

SEQUENCED ACTIONS

With no operational objectives beyond the beachhead, and even those being geographical in nature rather than force oriented, it was difficult for Eisenhower to sequence actions to achieve them. As mentioned earlier, the Allies did not have a joint plan for the operation, either. Therefore, sequencing could not be planned and executed based on either operational functions or on operational objectives.

The Combined Chiefs of Staff did design phases for the campaign and provide them to Eisenhower. They were: I) preparatory measures by air and naval forces to gain air supremacy; II) airborne and glider landings to secure airfields and disrupt enemy movement and communications; III) establishment of a secure lodgment as a base for further operations; IV) capture of the ports of Augusta and Catania and the Gerbini airfields; and, V) the reduction of Sicily.⁴⁹ Eisenhower had therefore been provided the framework for building a campaign. However, rather than use this framework to sequence actions, Eisenhower merely passed the plan on to the component commanders with no guidance except to accomplish it. While these phases do provide a semblance of sequencing,

the entire operation past the establishment of the beachheads was encompassed in the wording of the fifth phase, namely, "the reduction of Sicily." This phase was left intentionally vague by Eisenhower to allow the subordinate commanders freedom to conduct the campaign as they saw fit.⁵⁰ Alexander in turn left Patton and Montgomery free to conduct tactical actions of their own accord with no more guidance than to designate Montgomery as the main effort and Patton as the supporting effort.

The criterion concerning sequencing requires that these sequences set favorable conditions for the tactical battle and that superior combat power is concentrated. The fact is, once the landing of the ground forces was completed, the campaign turned into a frontal, tactical battle of attrition across the island by two armies acting independent of one another. Favorable conditions for these tactical battles could only be set by the tactical commanders themselves. As for the concentration of superior combat power, it may be said that the Allies possessed an overwhelming superiority in numbers. This alone does not generate superior combat power. Each army had an independent axis, providing little support to the other. Aside from providing air and naval superiority, the air and naval forces were not employed to support the ground forces in their advances, and in no way did they attempt to create the synergistic effect of coordinated joint operations. In fact, the two axes of advance for the Allied armies diverged beyond the beachheads. The "sword" and "shield" approach to ground operations by Alexander subordinated one half of his ground combat power to an insignificant role. The only decision Alexander was to make after the landings was to halt

Patton's army in favor of Montgomery when a decisive envelopment of the enemy forces was at hand early in the operation. This decision prevented the only chance of the entire campaign to complete a destruction of the main enemy force.

Nor were there any branches planned for HUSKY. Alexander planned to make all decisions concerning the flow of the campaign as actions occurred on the ground. Branches to account for degrees of success by the advancing armies may have led to a more decisive victory. Sequels, also an important aspect of sequenced operations, were totally neglected. This may have been somewhat out of the control of Eisenhower since the Allies could not decide on the direction of their efforts beyond Sicily. Consideration of this aspect of operational design, however, could have prompted Eisenhower to press the CCS for a decision in the early stages of the planning for Operation HUSKY. By the time of the TRIDENT Conference in May 1943, it had become obvious that Sicily was not an end in itself, but rather a stepping stone to operations against the Italian mainland. Had Eisenhower considered this eventuality, destruction of the enemy forces, prevention of their escape across the strait and a lodgement on the Italian mainland may well have been important considerations in the planning and execution of HUSKY.

As for culmination, Eisenhower correctly assessed the importance of ports and airfields to the sustained operations of the ground forces. That these decisive points were correctly identified ensured that culmination would not be a limiting factor in the drive across the island.

RESOURCE ALLOCATION

The final criterion, that of the application of resources to accomplish the sequence of actions, also becomes difficult to apply in light of the lack of sequenced actions accomplished during the campaign. However, certain observations can be made.

In the organization of the theater, Eisenhower ensured that there was sufficient force to do the job. Alexander organized main and supporting attacks and assigned these very vague missions to Patton and Montgomery. However, command and control problems plagued the campaign from the start. While a structure was established which identified a supreme, operational commander and three component commanders, this command structure resulted in more autonomy than unity of effort. The component commanders acted more like a committee than a joint staff, with Eisenhower serving as the chairman of the board.²¹ The headquarters of the three component commanders were geographically separated from the time of initial planning through the completion of the campaign. A single, joint headquarters, with at least representatives from each of the components was never formed. This organization ensured that individual component biases and interests were consistently placed above the higher interest of Operation HUSKY. No joint planning was accomplished, and even less joint execution through this arrangement. While the air component achieved air superiority and the naval component prevented enemy interdiction of allied landings, neither was integrated into the ground commanders' close or deep fight. This is clearly the operational commander's responsibility, one that was virtually ignored.

Therefore, the operational functions were never orchestrated. Yes, the strategic goals of the campaign were accomplished. The above analysis shows, however, that these results were achieved by mistake, rather than on purpose.

On the surface, the campaign appeared to be an overwhelming success. All of the military strategic goals had been achieved. The Mediterranean SLOCs were secure. Germany had been forced to divert precious resources at the expense of the Eastern Front and Italy was on the verge of collapse.²² In the capture of the island, however, some 62,000 soldiers of the Italian Army, and the entire remaining fighting strength of the German Army, escaped to the Italian mainland to fight another day.²³ With the potential for future operations directed against the Italian mainland it is dubious whether this was really a decisive victory. Analysis shows that had a framework similar to that of the current concept of operational art been used by Eisenhower, the results of this campaign could very well have been decisive.

The next campaign, recently concluded, provides a striking contrast to the previous campaigns. The operational commander of DESERT STORM had at his disposal the current doctrine. His use or misuse of the concept, therefore, provides valuable insight into the determination of an answer to the research question.

OPERATION DESERT STORM

OVERVIEW

Operation DESERT STORM was a campaign conducted from 17 January 1991 through 27 February 1991 by a United

States led coalition against Iraq. The war was precipitated by Iraq on 2 August 1990, the date on which they invaded, and later annexed, the country of Kuwait.

The major policy objective of the coalition was clear from the outset: the liberation of Kuwait.³⁴ United States Central Command (USCENTCOM) was the unified headquarters responsible for the planning and conduct of a possible war with Iraq should political and diplomatic means fail to attain the policy objective. U.S. forces were first deployed to the region in August 1990, in response to Iraqi aggression.

While much information concerning the planning for DESERT STORM remains classified, sufficient details are available for the critical analysis of this campaign. This information was made available via daily news updates by the Pentagon, Cable News Network (CNN), and newspaper reports. Also, following the campaign's successful completion, overviews of the entire campaign, at the unclassified level, were printed in both the Army Times and the Kansas City Star.³⁵ This campaign, in contrast to the previous two, reflects action taken on a modern battlefield, by an armed force that espouses operational art as part of its current doctrine.

MILITARY STRATEGIC GOALS

The operational commander had a clearly defined military strategic goal: restore, by military force, the territorial integrity of Kuwait.³⁶ Therefore, the first and most important criterion was met, and operational planning was free to commence.

MILITARY CONDITIONS

To achieve this military strategic goal, the operational commander established the necessary military conditions. Among them were the destruction of enemy forces in Kuwait and those in southern Iraq capable of intervening in the fight, the degradation/destruction of Iraqi war potential, air superiority and command of the sea. The enemy's center of gravity was identified as the Republican Guard, his elite, combat experienced, mechanized fighting force. In a military briefing on 23 January 1991, GEN Colin L. Powell, Chairman of the Joint Chiefs of Staff, said of the Republican Guard, "We're going to cut it off, then kill it."⁵⁷ The operational commander, GEN Norman Schwarzkopf, ensured operational and strategic agreement, wearing both hats in the theater of operations. Operational objectives were then established to facilitate the attainment of the established military conditions, not the least of which was the destruction of the enemy's armed forces.

SEQUENCED ACTIONS

Having established the military conditions, the operational commander sequenced actions to accomplish them. At least four phases were apparent. First, a pre-hostilities phase. During this phase, forces were built up and postured within the theater, a naval blockade was enforced and the enemy was kept guessing as to the allies' next move.⁵⁸ This phase lasted from the initial introduction of United States troops into the theater in August 1990 until the commencement of hostilities. Second, an air operation was begun signalling the beginning of hostilities. This phase began on 17 July

1991, and then only as political negotiations failed to conclude the conflict by peaceful means. During this phase, which lasted 37 days, key targets were destroyed throughout the theater, to include: command and control facilities, infrastructure, ballistic missile capability, nuclear and chemical production plants, and air and ground combat forces.³⁹ The overriding consideration of this phase was to set the conditions for the tactical ground battle by "isolating the battlefield."⁴⁰ Also during this phase, ground and naval forces contributed with fire and naval gunfire support. Ground forces were moved continually to deceive the enemy as to the direction and strength of the coming ground offensive and further set conditions for that offensive. Due to these efforts, the Iraqis never knew where the bulk of the coalition's ground forces were positioned, even as the ground attack commenced.⁴¹

The third phase saw the introduction of ground forces into combat supported heavily by close air support, battlefield air interdiction and naval gunfire. A superior armored force, consisting of three armored divisions, one infantry division and an armored cavalry regiment, conducted the clearly identified main attack.⁴² They performed a wide, single envelopment, past the enemy's right flank, directed against his center of gravity.⁴³ Concurrently, supporting attacks were conducted across the front, further confusing the enemy as to direction of the main attack. An amphibious demonstration was conducted by the Marines to deceive the enemy and prevent his shifting of forces to the west, to the area of the main attack.⁴⁴

Also during this phase, the largest helicopter

operation in military history was launched by the 101st Airborne Division. Approximately 4,000 soldiers moved over 60 miles into Iraqi territory to establish a forward supply base.⁴³ This base was carefully situated to facilitate sustainment operations all the way to the Euphrates River, negating the necessity for an operational pause by the ground forces. Finally, the whole campaign was supported by naval gunfire and cruise missiles in addition to the air support. This phase lasted only four days, approximately 100 hours.

The final phase, ongoing at the time of this writing, is the consolidation phase. Gains are being consolidated awaiting political resolution of the war, on favorable terms to the coalition forces. These forces are gradually being redeployed from the theater. A formal ceasefire agreement, adopted by the United Nations, is currently pending acceptance by the Iraqis.⁴⁴ Once signed, the war will be formally over, and the withdrawal of U.S. forces will be accelerated.

RESOURCE ALLOCATION

In the area of resource allocation, the theater was well organized with a working command and control structure which coordinated joint and combined operations. Missions were assigned to subordinate components and formations with well-defined main and supporting attacks. The operational functions, i.e., command and control, fires, maneuver, protection, intelligence and sustainment, were orchestrated masterfully. Finally, forces were moved to and within the theater until sufficient forces were available at the proper time and in the proper place.

To be effective, doctrine must provide us insights as to how to fight the next war, not the last one. Operational art is a concept that, until recently, was not battle tested. To be effective, it must be sufficiently broad to cover the range of possibilities open to the nature of future conflict. The first true test came in the Middle East, and the statistics from that war are staggering. An estimated 80,000 to 100,000 enemy prisoners were taken and 3,700 tanks, most of the Iraqi artillery, and countless armored personnel carriers were destroyed; up to 42 Iraqi divisions were destroyed or rendered otherwise ineffective. On the other hand, U.S. combat casualties were kept surprisingly low, at 79 killed in action. Of these, 23 were the result of the air operation, 28 from the ground combat phase, and 28 as a result of an Iraqi SCUD missile attack.⁴⁷ History, therefore, supports the concept of operational art, and the results of DESERT STORM confirm it.

IV. CONCLUSIONS

The modern doctrinal concept called operational art has distinct practical utility for the planning and conduct of campaigns and major operations on the modern battlefield. While the mere practice of operational art does not guarantee success, and its component parts do not provide the operational level commander and staff with some kind of magical formula, it does provide them with a planning and executing tool. It "forces" them to consider all that should be considered when planning and conducting campaigns and major operations in a theater of

war or theater of operations. Doctrine does not profess to do more than that and we cannot expect doctrine to do more or be more than that.

The campaigns analyzed in this monograph served to illustrate the practical utility of the doctrinal concept under examination. As mentioned earlier in this paper, success or failure had bearing on the study only in so far as it resulted directly or indirectly from the application or misapplication of what we today call operational art. The campaigns did that, each in a different way. The purpose of this section is to show how the research question has been answered.

BARBAROSSA has gone down in history as a complete and utter failure for the Germans. This, despite the fact that the initial design of the campaign followed very closely what we today call operational art. Failure, therefore, was not a result of the failure to practice operational art in the planning stages of the campaign. Failure in this case occurred when operational art was not practiced in the execution. Initial end states, operational objectives, enemy center of gravity and sequencing of actions were abandoned as the plan progressed. The causes of this breakdown were explained above, but included a lack of unified effort on the part of Hitler and his staff, abandonment of a well-conceived, sequenced operation in favor of simultaneity once the campaign was underway, and a failure to identify branches and sequels in the planning process. Operational art necessitates these be considered and adhered to throughout the campaign.

Perhaps the most important contributing factor to the failure of BARBAROSSA, however, was in the allocation

of resources. All of the operational art in the world cannot compensate for an overwhelming deficiency of means. There are times when an objective is not within the means of an armed force. BARBAROSSA may well have been one of these times. While the practice of operational art can reduce the level of risk, it cannot compensate entirely.

In the Sicily campaign, on the other hand, all military strategic goals were achieved by the coalition forces. Highly successful tactical actions contributed to the attainment of these goals. However, the goals were not achieved due to the presence of an operational commander who applied the concept of operational art to either the design or conduct of the campaign. Factors contributing to this success included overwhelming superiority of air, ground and naval forces and excellent execution at the tactical level. With odds so heavily in the coalition's favor, i.e., a clear excess of means, success was inevitable. The practice of operational art in this campaign, however, could only have made success more complete.

No end states facilitating future operations in the Mediterranean were established, nor were military conditions established to achieve the end states. Consideration of the enemy center of gravity could have led to its identification as the enemy force, and contributed to that force's destruction. Operations on mainland Italy would then have been made easier. The theater was not organized properly, nor was the command and control structure adequately established. Branches to exploit unexpected success of the supporting effort were not planned and sequels to facilitate the next

Allied step were not considered. As shown earlier, this resulted in vast numbers of enemy forces inadvertently being allowed to evacuate the island to fight another day.

Finally, and perhaps most convincingly, DESERT STORM was a campaign in which the doctrinal concept of operational art was employed almost to the letter, resulting in overwhelming success. The Kuwaiti theater was not a large geographic area. The forces employed, while substantial, did not consist of multiple field armies. As shown by the analysis, success of the operation was due to the sound application of the modern doctrinal concept called operational art.

The operational commander knew very clearly what his military strategic goal was from the outset. He was therefore able to design a campaign to achieve it.

Following the concept of operational art, he then established military conditions and operational objectives, never losing sight of what he determined to be the enemy's center of gravity, his main force. All actions were orchestrated to setting favorable conditions for its ultimate destruction.

Actions were sequenced to facilitate the destruction of the enemy's center of gravity with the minimum loss of life to coalition forces. This sequencing commenced even prior to the start of hostilities as forces and supplies were built up within the theater. These forces were introduced into the theater until the operational commander was convinced that he had sufficient combat power to do the job. The air operation which preceded the introduction of ground troops into combat set the conditions for their eventual success. Operational and

strategic agreement was insured by the close cooperation of the operational commander, the Chairman of the Joint Chiefs of Staff, and the National Command Authority.

Finally, resources were allocated flawlessly. The command and control structure established in the theater facilitated efficient joint and combined operations. The theater was organized with clear lines of operation and communication and clear missions were assigned to the combat units.

The study of warfare provides many examples of what it takes to win on the battlefield. Centuries of experience in the study and conduct of warfare, however, do not provide operational commanders and staffs with "cookie cutter" solutions. Successes have resulted from overwhelming superiority of means, superior leadership, superior technology, superior maneuver and excellent tactical execution. Success has also resulted from "good luck" and poor performance of the opposing forces. It can result from good versus bad judgement. Failures have occurred much the same when these factors are reversed. However, the fact is that historical analysis and theory by themselves cannot provide a solution. What is needed, therefore, is a tool. Operational art is this tool; how it is used is up to the artist.

In conclusion, operational art has current practical utility. This utility is derived from the sense of aim, purpose and direction it provides as it serves as a linkage between tactics and strategy. It is not confined by the bounds of geography, command level or size of forces, only by the framework, or structure it provides the operational commander, whatever his level. The conduct of war is an art. As with any type of art

though, some is good and some is bad; but we cannot even begin to practice it without a medium. Our doctrine provides this medium in the form of operational art.

As evidenced by the title of this paper, I sought to determine the utility of a current doctrinal concept. The business of an army is to fight. At the operational level, regardless of the level of command, doctrine with modern, practical utility is essential. With military involvement possible across the operational continuum, doctrine must provide the necessary tools to prosecute war. As shown earlier, operational art does this.

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